

WHAT IS CLAIMED IS:

1. A freewheel bearing device (1), of the type comprising an outer element (5), an inner
5 element placed in the outer element, and a freewheel (6) provided with at least one jamming
element (15), placed between the inner element and the outer element to leave free a rotation
movement in one direction between the outer element and the inner element and to transmit a
torque in the other direction between the outer element and the inner element, characterized in
that the freewheel (6) comprises a race (14) provided with an inner cylindrical surface and an
outer cylindrical surface (14d), substantially aligned on a radial plane perpendicular to the axis of
10 rotation of the device, and a torque limiter member capable of limiting the torque transmitted by
the freewheel, the torque limiter member being placed radially between said race (14) and the
outer element (5) or the inner element in contact with said race and said element.
2. The device as claimed in claim 1, characterized in that the torque limiter member is
15 mounted in series with the freewheel (6) to limit the torque transmitted by the unidirectional
engagement member in the torque transmission position.
3. The device as claimed in claim 1 or 2, characterized in that the torque limiter member
20 comprises at least one friction element (7).
4. The device as claimed in claim 3, characterized in that the friction element (20)
comprises a radial friction surface (23a).
5. The device as claimed in claim 3, characterized in that the friction element (7) comprises
25 an axial friction surface delimited by two radial planes.
6. The device as claimed in any one of the preceding claims, characterized in that it
comprises a bearing allowing the outer element to rotate relative to the inner element.

7. The device as claimed in claim 6, characterized in that the bearing is a rolling bearing (4).

8. The device as claimed in claim 7, characterized in that raceways for the rolling elements of said bearing are arranged in the inner and outer elements.

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9. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member is placed on an outer surface (14d) of the freewheel.

10. The device as claimed in any one of claims 1 to 8, characterized in that the torque limiter member is placed in a bore of the freewheel.

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11. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member comprises an open elastic ring provided with an outer friction surface and an inner friction surface.

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12. The device as claimed in claim 11, characterized in that the ring is made of steel sheet and has a U-channel provided with two axial flanges.

13. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member comprises a plurality of elastic tongues (19a).

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14. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member comprises an elastic ring (18) made of synthetic material provided with an outer or inner friction surface and a respectively inner or outer attachment surface.

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15. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member comprises at least one friction ring (23) and an elastic washer (25) for placing the friction ring bearing axially on a friction surface.

16. The device as claimed in any one of claims 1 to 11, characterized in that the torque limiter member comprises a body in the shape of an open ring.

17. The device as claimed in claim 16, characterized in that the torque limiter member also
5 comprises an elastic element for prestressing said body.

18. The device as claimed in any one of the preceding claims, characterized in that the freewheel comprises a spring provided with an end fixedly attached to the torque limiter member and coils in friction contact on the inner or outer element.

19. The device as claimed in any one of the preceding claims, characterized in that the jamming elements of the freewheel are cams, rollers or pawls.

20. The device as claimed in any one of the preceding claims, characterized in that the torque
15 limiter member comprises a friction element and an element for prestressing the friction element against said race (14) and/or the outer element (5) or the inner element.

21. The device as claimed in any one of the preceding claims, characterized in that the torque limiter member is prestressed between two separate pieces.

22. A freewheel bearing device (1), comprising an outer element (5), an inner element placed in the outer element, and a freewheel (6) (15) placed between the inner element and the outer element, characterized in that the freewheel (6) comprises a race (14) provided with an inner cylindrical surface and an outer cylindrical surface (14d), substantially aligned on a radial plane
25 perpendicular to the axis of rotation of the device, and a torque limiter member mounted in series with the freewheel (6) to limit the torque transmitted by the unidirectional engagement member in the torque transmission position.